the White River drainage, the latter eventually connecting with the drainage of the Mississippi River. As the Tertiary uplift of the Ozark region gradually changed the peneplain from a region of sluggish streams and swampy habitats to the present upland topography with its rocky drier soils and dissected well-drained topography, the formerly more abundant aquatic and sub-aquatic habitats of the swampy peneplain became more drained and eventually were reduced to a relatively few localities centering around the present sink-hole ponds. After Pleistocene times the Xerothermic period must have further reduced the occurrence of strictly aquatic habitats, exterminating Coastal Plain and other species that had survived from the end of the Tertiary uplift.

These sink-hole ponds give every evidence of having served for aquatic habitats in the past and at present they afford a refuge in the Ozarks by being the last remaining habitats suitable for Coastal Plain and Mississippi Embayment species. Botanically, therefore, they represent probably the most significant relict habitat in the Ozarks, dating back to the close of the Tertiary Period, and the species isolated in their distribution to these ponds are in Missouri certainly to be considered as among the oldest, if not the oldest, elements in the flora of the state.—Chicago Natural History Museum and Missouri Botanical Garden.

ADDITIONS AND EXTENSIONS TO THE FLORA OF NOVA SCOTIA

J. S. Erskine

The following records of collections were made, chiefly during 1950–51, while collecting for the Nova Scotia Museum of Science. To avoid repetition, new records for Cape Breton were included in the recent paper by Dr. E. C. Smith (Rhodora **54:** 220. 1952).

Lycopodium Selago L. Amethyst Cove, King's County. First record for mainland.

Sparganium hyperboreum Laest. New Harbour, Guysborough County. First record for mainland.

Bromus Tectorum L. Common on railway ballast around the railway station at Berwick, King's County. Confirmed by W. G. Dore of the Dominion Experimental Farm, Ottawa who

says: "This approaches var. *glabratus* Spenner in its glabrous glumes and scabrous lemmas. The weed that is common in southern Ontario and southern Alberta is quite hispid to pilose on the spikelets. It would appear that your collection, which is the first I know of from Nova Scotia, has been an introduction from a source not in the interior of Canada. Our two collections from New Brunswick (St. Andrews 1936 and Fredericton 1934) are both of the typical hairy kind."

Eragrostis poaeoides Beauv. This was found growing on railway ballast at Truro, Colchester County, *E. C. Smith et al. 4809*, and at Wolfville, King's County, *D. S. and J. S. Erskine JSE 51.1532*. It was determined by W. G. Dore.

Panicum clandestinum L. Gaspereau River, King's County; Shubenacadie River, Halifax County; St. Mary's River, Guysborough County. Eastward extension of range.

Rhynchospora capitellata (Michx.) Vahl. Abundant in flood-plain of St. Mary's River at Caledonia, Guysborough County. Extension from southwest corner of province.

Stellaria Holostea L. Reported in error (Rhodora **53:** 268. 1951) by D. S. Erskine from a record of mine.

Sanguisorba officinalis L. A long-established but not large station of this plant was found between a meadow and an oxbow pond beside the St. Mary's River, some four miles above Sherbrooke, Guysborough County (*JSE 51.570*). This seems to be the first record for Canada.

Dirca palustris L. A single sterile bush of this species was found on the Newport "chimneys," a network of gypsum sinkholes shaded by spruce beside the St. Croix River, Hants County. No material for comparison was locally available, however D. S. Erskine, after looking up material of this species in the University of Toronto herbarium, thought our collection was accurately determined. Since then W. B. Schofield has found in some unpublished material of Macoun's in the National Museum at Ottawa a report of the finding by Dr. Soloan and his students of three stations of this plant in Nova Scotia. This was unsupported by collections and the definition of locality was vague, e. g. "Wentworth." There is a "Wentworth" within three miles of our new station for *Dirca*, but there are also others in the province.

EPILOBIUM ANGUSTIFOLIUM L., f. ALBIFLORUM (Dumont) Haussk. One white flowered plant among typical, *R. Erskine*, Sandy Cove, Digby County, 9th August 1948.

ASCLEPIAS INCARNATA L., var. NEOSCOTICA Fern. Headwaters of Gay River, Halifax County; Whycocomagh and Black River, Inverness County. The three varieties of the species, *neoscotica*, *typica* and *pulchra*, are all found here and do not separate satisfactorily. Each colony found seemed to have minor differences nearly as important as those of number and size and pilosity of leaves. The station at Gay River was sterile or in flower; that at Whycocomagh two days later was wholly in fruit or sterile; those at Black River three days after that were sterile or in flower, but the most typically *neoscotica* were usually browsed off while the clumps protected by banks of *Crataegus* were tall and approached var. *pulchra*. It would be interesting to have an experimental taxonomist subject these varieties to poor soil and periodic browsing in order to determine to what extent these differences are environmental.

GRATIOLA AUREA Muhl. Lake Charlotte, Halifax County; Gaspereau Lake, King's County. Minor extensions.

CAMPANULA APARINOIDES Pursh. Near mouth of Economy River, Colchester County (*JSE 51.145*). Second station for province.

EUPATORIUM MACULATUM L., f. FAXONI Fern. Two plants in marsh at Whycocomagh, Inverness County (*JSE 51.822*).

SOLIDAGO FLEXICAULIS × MACROPHYLLA. *S. macrophylla* Pursh is common in Cape Breton but is rare on the mainland. Two collections have been made in Colchester County from the Economy River valley (*E. C. Smith et al. 1208; JSE 51.163*). The author found a single flowering plant at Amethyst Cove, King's County, (*JSE 51.1652*), growing among abundant *S. flexicaulis* L., while another single plant (*JSE 51.1654*) combined the characters of both species, having the size and long-branched inflorescence of *macrophylla*, the shorter petioles and less coarse serration of leaf and small heads of *flexicaulis*. As Gray's Manual does not include this among *Solidago* hybrids observed, it may be worthy of note.

CREPIS CAPILLARIS (L.) Wallr. Well-established in a pasture half a mile northeast of the much collected Villagedale Dunes, Shelburne County (*JSE 51.1467*). New to the province.

Grateful acknowledgements are due to the Nova Scotia Museum of Science for financing the collecting and to Dr. W. G. Dore and Dr. B. Boivin of the Dominion Experimental Farm, Ottawa, for determinations of plants new to the province.
Wolfville, Nova Scotia.

Podophyllum peltatum forma Deamii Raymond in Western Pennsylvania.—These plants grow in open white-oak woods with an understory of sassafras and flowering dogwood, near Criders Corners in Butler County, just across the Allegheny County line. They occur in a large patch which is twelve feet in the longest dimension and contains fifty or more plants, all of which have the maroon colored (dark vinaceous of Ridgway) fruits and blush-pink blossoms. Nearby and scattered throughout the woods are many other patches, all of which are the ordinary yellow-fruited kind.

This patch was first discovered on June 27, 1943, by A. J. Deer, W. E. Buker, and F. H. Beer, at which time a specimen was taken and presented to the Carnegie Museum Herbarium. The specimen was filed as a color variant of *P. peltatum*. When Dr. Raymond's form was described in 1948, we found that our specimen checked exactly with his description of forma *Deamii*. The form was included in the "Check List of the Vascular Flora of Allegheny County, Pennsylvania," published by the author and Mr. Buker in 1951, since we also listed species not yet found within the County but collected within a ten-mile radius of the boundary.

On June 5, 1952, Mr. Buker and the author visited the patch again in order to collect some specimens for exchange. It seems likely that all the plants have been derived from a single mutant parent by rhizomatous growth, since digging revealed that several plants were connected to one rhizome. The coloring of the plants and the immature fruits was as follows: tip of rhizome bud, dark vinaceous (Ridgway); base of stem, dark vinaceous; remainder of stem and the petioles, flecked with same color; peduncles maroon (Ridgway); and immature fruits dark vinaceous.—L. K. Henry, Curator of Plants, Carnegie Museum, Pittsburgh.

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